Claims

What is claimed is:

1. An apparatus for compensating for interference in speech recognition, said apparatus comprising:

5   a first input medium which obtains an initial speech signal;

a second input medium which obtains at least one interfering signal;

a normalizing arrangement which reconciles the initial speech signal and at least one interfering signal with one another to produce a final speech signal; and

said normalizing arrangement being adapted to account for non-stationary noise in

10   the at least one interfering signal.

2. The apparatus according to Claim 1, wherein said first input medium is adapted to obtain the initial speech signal in an environment where noise corresponding to the at least one interfering signal is present.

3. The apparatus according to Claim 2, wherein said second input medium is

15   adapted to obtain solely the at least one interfering signal.

4. The apparatus according to Claim 1, wherein the final speech signal is a clean speech signal.

5. The apparatus according to Claim 1, wherein said normalizing arrangement is adapted to estimate at least one characteristic of the at least one reference signal given at least one characteristic of the initial speech signal.

6. The apparatus according to Claim 5, wherein said normalizing arrangement is further adapted to refer to a codebook in estimating at least one characteristic of the at least one reference signal.

7. The apparatus according to Claim 6, wherein said normalizing arrangement is adapted to apply a compensation term to the initial speech signal in reconciling the initial speech signal and at least one interfering signal with one another.

8. The apparatus according to Claim 7, wherein said normalizing arrangement is adapted to estimate the compensation term via assessing its expectation value over a plurality of codewords in the codebook.

9. A method of compensating for interference in speech recognition, said method comprising the steps of:

obtaining an initial speech signal;

obtaining at least one interfering signal; and

reconciling the initial speech signal and at least one interfering signal with one another to produce a final speech signal;

5   said reconciling step comprising the step of accounting for non-stationary noise in the at least one interfering signal.

10.   The method according to Claim 9, wherein said step of obtaining an initial speech signal comprises obtaining the initial speech signal in an environment where noise corresponding to the at least one interfering signal is present.

10   11.   The method according to Claim 10, wherein said step of obtaining at least one interfering signal comprises obtaining solely the at least one interfering signal.

12.   The method according to Claim 9, wherein the final speech signal is a clean speech signal.

13.   The method according to Claim 9, wherein said reconciling step comprises the

15   step of estimating at least one characteristic of the at least one reference signal given at least one characteristic of the initial speech signal.

14. The method according to Claim 13, wherein said estimating step comprises referring to a codebook.

15. The method according to Claim 14, wherein said reconciling step comprises the step of applying a compensation term to the initial speech signal.

5   16. The method according to Claim 15, wherein said estimating step comprises estimating the compensation term via assessing its expectation value over a plurality of codewords in the codebook.

17. A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for

10   compensating for interference in speech recognition, said method comprising the steps of:

obtaining an initial speech signal;

obtaining at least one interfering signal; and

reconciling the initial speech signal and at least one interfering signal with one another to produce a final speech signal;

15   said reconciling step comprising the step of accounting for non-stationary noise in the at least one interfering signal.